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| 13. ABSTRACT (Maximum 200 words) This briefing begins with an overview of how this study began. It then outlines the three specific areas that CNA was asked to study and presents the findings for each of these tasks. First, we would examine administrative costs that are associated with the managed care support contracts. Our second task was to examine several commercial performance standards to be used as benchmarks in our analysis of the military health care system. Finally, we were to examine Region 11 utilization and cost. | | |
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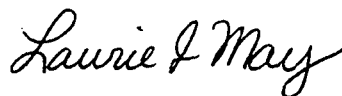
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A handwritten signature in cursive script that reads "Laurie J May".

Laurie J. May, Director
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Resource Analysis Division

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Region 11 Health Care and Administrative Costs

**Robert A. Levy • Michele Almendarez
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August 31, 2001

Background

- Original sponsor was the Office of the USD (Personnel and Readiness)
- Now joint sponsor is Region 11 lead agent
 - BG K. Farmer
- CNA also discussed issues with OASD/HA and TMA
- After several proposals and revisions, final set of tasking jointly agreed on between CNA and lead agent

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We begin our presentation with a brief description of how this project began and how it eventually focused on Region 11. It was originally sponsored by the Office of the Under Secretary of Defense (USD) for Personnel and Readiness. It was an extension of some earlier work that we began a few years ago. That work focused on the DOD health care benefit and the feasibility of enrollment throughout the system. In the course of discussions concerning what we might do next, we proposed an examination of several issues that might be of interest to the lead agent in Region 11, BG Farmer. Region 11 is, of course, the region where many changes in the Military Health System (MHS) are taking place. It was the first to implement TRICARE and was due to be the first to implement the new managed care support contract. Region 11 was the “testbed” for much of what is known as MHS optimization as well as the first to provide the lead agent with additional control of the local health care system. It seemed a good fit for us to examine several issues that would be of interest to BG Farmer and his staff.

At the same time, we wanted to ensure that what we were doing was of interest to our original sponsor as well as to the Office of the Assistant Secretary of Defense for Health Affairs (OASD/HA) and the TRICARE Management Activity (TMA). There was some give and take on just what we should do, but, in the end, this project’s tasking was jointly agreed on by the Region 11 lead agent’s office and CNA.

Tasking

- **Examine administrative costs associated with managed care support contractor (MCSC)**
 - MCSC (HealthNet) bears most, but DOD bears some
 - Compare with other regions and with civilian benchmarks
- **Define commercial performance standards**
 - Compare with Region 11 values when available
- **Examine Region 11 health care utilization and cost**
 - Compare with other regions
 - Examine “complexity” of services offered within military treatment facilities (MTFs) and by MCSC

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We agreed on three specific tasks. First, we would examine administrative costs that are associated with the managed care support contracts. Much of this cost is borne by the contractor, but DOD bears some costs as well. Our goal was to examine the administrative costs and compare them with those observed in other TRICARE regions—some by the same contractor (in Regions 6, 9, 10, and 12) but, for the most part, by other contractors.

Our second task was to examine several commercial performance standards. CNA often uses civilian benchmarks in its analyses as a way of comparing the MHS with other health care providers. Our Denver staff is uniquely qualified to introduce the use of commercial practices from their prior experience with various health care providers, both public and private. We discuss several of these standards and show how they can be used by managers to make improvements in the provision of care as well as how we plan to use them in our analysis of Region 11's health care utilization and cost.

Examining Region 11 utilization and cost is the focus of the third task. This is clearly a large task and we couldn't explore all aspects of this rather open-ended topic. However, we draw from databases that we have recently created to examine MTF productivity as well as the demand for health care services by the region's beneficiaries.

Conclusions

- On the administrative side, only recently have DOD costs exceeded private and public benchmarks
- Region 11 MTFs are performing at reasonably high levels of productivity, according to several measures
 - But recent evidence shows that contractor workload has been increasing
- Enrollee health care costs are fairly low, but non-enrollee costs are high
- Overall a “good news” story, but many challenges remain

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Listed above are several conclusions that we’ve drawn from our analysis. First, we recognize the difficulty of comparing any component of DOD costs for care with commercial costs. The government often pays a price for a set of services (such as under the contract), but an employer or an individual bears an expense, and the two can be different. Nonetheless, we’ve created “comparable” measures and found that, for administrative costs, Region 11’s costs were roughly in line until the last part of the contract. For option periods 6 and 7, the costs appear to be higher than various public and private benchmarks.

There were many positive findings, however. We created several measures of MTF productivity and found, at least for the subset shown here, that the region’s MTFs were performing at fairly high levels (other measures drawn from our data can be made available on request). Also, we want to point out that our data were mainly for FY 1999 and the more aggregate data for FY 2000 show some evidence of falling MTF productivity. For the most part, however, the MTFs performed well.

We found that costs were kept under control for enrollees, although non-enrollees had relatively high costs.

Although we found evidence of good performance, many challenges remain. The slides in this presentation provide the details of our analysis, our measures of productivity and demand, and a list of several issues likely to be future problems confronting the region and its Lead Agent.

Administrative Cost Issues

- **DOD health care system is complex**
 - Contracts with MCSCs differ from commercial plans
 - Change orders, requests for equitable adjustments (REAs), and bid-price adjustments (BPAs) unique to DHP
- **Useful to compare**
 - Across regions, especially for different contractors
 - With civilian benchmarks
- **Recent “globalization” effort means DHP FY 1998 and 1999 admin. costs will be understated**
 - When recent negotiated costs are added to those years, will likely add several percentage points to cost

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The DOD health care system is complex and consists of both the military medical treatment facilities and the care provided through the MCS contracts, which we often call CHAMPUS in this briefing (even though it's a somewhat older term, we use it to mean the care delivered by civilian providers, but ultimately paid for by DOD). These contracts are different from what a typical employer uses to provide coverage for its workers. Usually, an employer chooses from several fairly standard insurance plans where the benefits are clearly stated from the beginning and generally won't change during the year the coverage is in force. DOD's contracts are subject to changes in benefits throughout the year—sometimes as a result of congressional action, sometimes because of decisions made within the system. These changes lead to what are known as change orders and REAs, in which the MCSC asks for additional compensation. There is also an adjustment to the contract periodically—every year or now perhaps quarterly—to try to reconcile costs and payments between the MCSC and the government.

Once we have measures of the contracts' administrative costs, we feel it provides valuable information to compare the costs observed in Region 11 with those in other regions as well as with costs observed in the public and private sectors.

Defining Administrative Costs

- Expenses that plans typically declare include
 - Utilization review
 - Claims processing
 - Information technology
 - Customer service
 - Contract negotiation
 - Marketing
- Expenses for responding to government regulation
 - Including change orders, REAs, and BPAs
 - Outside appeal processes
 - Mandated benefits
- Expenses to meet stringent standards for accreditation
 - Examples include NCQA and HIPPA

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This slide presents several of the components making up administrative costs. They include such items as claims processing, contract negotiation, and customer service, as well as costs for meeting regulations and accreditation.

As we'll show, the cost structure of civilian managed care is roughly 85 percent medical and 15 percent overhead, including profit/income. Unlike other health care businesses that can have a 10- to 20-percent profit margin, managed care is a 1- to 3-percent profit margin business.

Administrative cost structures differ depending on product line and other specialized services that may be requested by a particular customer. We should also point out that HMOs have some discretion over what is reported as administrative expense under the guidelines set by the National Association of Insurance Commissioners. For example, insurers may reclassify utilization review as a medical expense instead of an administrative expense. In general, however, the costs listed here can be thought of as administrative as opposed to health care costs.

Administrative Costs Over Time

- In civilian world, before managed care (1987), private health insurance admin. cost per person was \$78
 - According to Kaiser Family Foundation analysis
- In most recent year available, 1996, costs increased by 350 percent, to \$275 per person covered
 - During roughly same time period, total health expenditures increased 250 percent
- Conclusion: growth in admin. costs is correlated with advent of managed care

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Introducing managed care administration/management functions into the health system from the late 1980s through most of the 1990s appears to have reduced the significant growth in total health expenditures. During the early part of the period, through the mid-1990s, administrative costs increased at a faster rate than health care costs. During this period and into the late 1990s, we have seen much slower growth, and possibly now even stabilization in administrative and health care expenses mainly through HMOs competing for market share and keeping premiums artificially low without regard to the cost of providing care.

However, premium increases averaged 10 percent in 2000, are estimated to rise between 12 and 20 percent in 2001, and will continue to increase in 2002, averaging 15 percent. The increase in health care premiums in 2000 is significantly higher than other indicators, such as workers' earnings (3.7 percent) and the overall 3-percent inflation rate.

It appears that managed care may be losing its ability to meet the goal of reducing baseline costs and tempering inflationary trends. As a result, managed care plans are being closely scrutinized by both purchasers and regulators to track expenditures and to determine the value added by managed care (in the form of administration cost) as health care costs spiral upward.

Civilian Benchmarks

Avg. of Expenditure Ratios (1997-1999)

| Health Plan ¹ | Medical care | Administration/profit |
|--------------------------|--------------|-----------------------|
| Private | 84.56% | 13.92 / 1.60% |
| Public ² | 84.68% | 10.06 / 5.3% |

¹ From the California Medical Association for both public and private plans.

² Public health plans primarily provide coverage to Medi-Cal beneficiaries.

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For several years, the California Medical Association has published the Knox-Keene Expenditures Summary. The summary breaks down a health plan's expenditures by medical care, administrative, and profit (surplus) for each private and public HMO. The latest available results for medical, administrative, and profit/income are from 1997 to 1999 for private health plans. With the significant increase in premiums in 2000, it is expected that profitability will slightly increase in private programs.

According to the Knox-Keene reports (1997-99), public health plans in California spent the same percentage of revenue as private health plans for medical expenses (about 85 percent). Yet, administrative expenses were 10 percent of revenue compared to the private programs that averaged 14 percent. One reason for this is that the premium for many populations under Medicaid is up to 300 percent of a commercial premium. When we say that administrative expense is similar between private and public health plans, note that the Medicaid plan is spending the same percentage, but far more in absolute dollars.

In addition, the Kaiser Commission on Medicaid and the Uninsured examined selected financial indicators for Medicaid plans in 13 states for the year ending 1997. Administrative expenses as a percentage of revenue ranged from 12 to 21 percent. The study found that administrative expenses averaged 15.9 percent with an average net profit margin of -4 percent.

Administrative Expense Blue Cross/Blue Shield

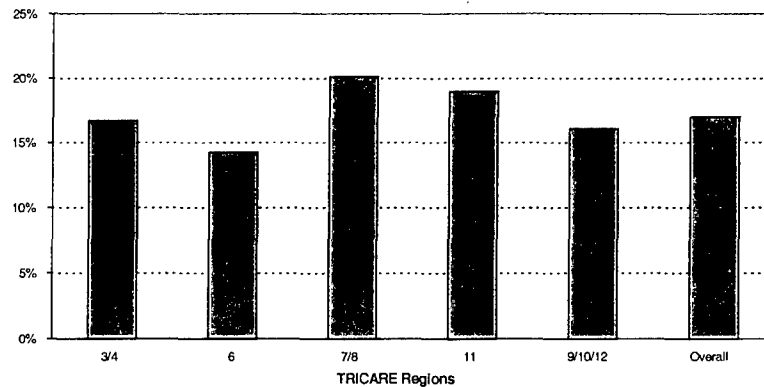
| | Range of costs observed for plans | |
|-------------------------------------|--------------------------------------|---------|
| | Low | High |
| Commercial HMO PMPM ¹ | \$15.23 | \$27.84 |
| Admin. as % of premium | 10.9% | 19.9% |

¹ Per member per month

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These figures represent the range of administrative costs on a per-member per-month (PMPM) basis experienced by Blue Cross/Blue Shield (BC/BS) HMO plans. The low side averages a little more than \$15 per month, but that can almost double for some commercial BC/BS HMOs (generally by region of the country). The administrative percentage of the premium is calculated using an average monthly premium of \$140 for all HMOs. We had to use this one value because the average premium for BC/BS HMOs was not available. Therefore, if BC/BS premiums are lower, as one might expect them to be, the percentage of administrative cost of premium would be much higher. Even for the high value shown in the slide, the implied administrative expense is almost 20 percent.

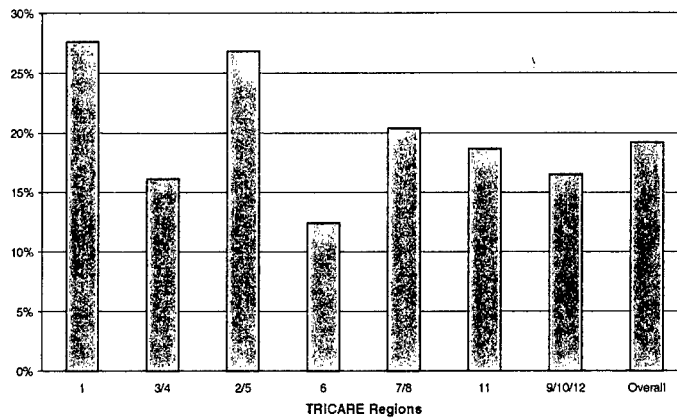
FY 1998 MCS Administrative Costs (As Percentage of Total Contract Value)



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Here, we've taken values from the CNA/IDA Evaluation of the TRICARE Program: Report to Congress that examines the effect of the TRICARE program on government costs. In FY 1998, contractor administrative cost for the managed care support (MCS) cost category was approximately \$349 million and increased to \$558 million in FY 1999. However, the percentage of contractor and government administrative costs remained relatively stable for the MCS category for both fiscal years, as shown in this and the next slide (the latter showing FY 1999). Contractor administrative costs averaged 15.7 percent, and government administrative costs averaged 1.5 percent. Including contractor administrative cost in both the direct care and MCS categories, administrative costs make up 17 and 19 percent of the total MCS contract value in 1998 and 1999, respectively. In terms of Region 11's administrative costs, in FY 1998, they were in line with those in other regions, although slightly above the overall average.

FY 1999 MCS Administrative Costs (As Percentage of Total Contract Value)



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In FY 1999, the costs for most regions increased slightly. For Region 11, the percentage going for administrative costs was similar to the percentage in 1998, about 18 percent of all costs, but this was lower than the 19 or so percent for all regions. Of course, as shown in the slide, much of any increase in the overall average was the result of Regions 1, 2, and 5, which were new to TRICARE in FY 1999, the last year that CNA and IDA had complete cost data. These regions, falling as they do under what is known as revised financing, have the highest administrative cost as a percentage of total contract value.

Average Range of Medical and Administrative Expense

| Type of plan (HMO/POS) | Health care expenses (%) | Admin. expenses (%) | Operating margin/profit (%) |
|------------------------|--------------------------|---------------------|-----------------------------|
| Private | 84 – 88 | 12 – 16 | -3 – 3 |
| Public (Medicaid) | 84 – 88 | 10 – 16 | -5 – 5 |
| Region 11 | | | |
| Initial (OP1-5) | 83 – 85 | 14 – 17 | Included in admin. |
| Current (OP1-5) | 80 – 81 | 18 – 20 | Included in admin. |
| Current (OP6-7) | 76 – 77 | 22 – 24 | Included in admin. |

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To calculate the MCS cost structure for Region 11, we obtained initial and current contract prices from Section B of the current contract by option period. The current contract prices displayed in Section B of the contract may not be complete. TMA calculates the prices shown in Section B of the contract based on definitized modifications. Depending on the nature and scope of the remaining definitized modifications, the percentage of medical and administrative prices of the total may change.

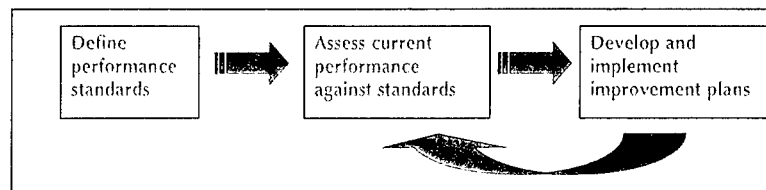
However, based on the information available, Region 11's initial contract prices averaged approximately 84 percent for medical care and 16 percent for administration (including profit) for the five option periods. Current contract prices have seen a decrease in the medical care expenses averaging 81 percent of the total price and an increase in administration expenses averaging 19 percent of the total. For option periods six and seven, the administrative expenses increase to roughly 23 and 24 percent of the total contract price, respectively.

The data suggest that a variation in cost structure does exist between public and private health plans in the civilian sector and Region 11's MCSC prices for administrative and medical care expenses.

Further analyses are required to detail which MCSC administrative functions should be compared to industry standards. MCSC provides administrative support for the direct care system, such as appointment scheduling, that is not normally provided by typical managed care plans. This can inflate the overall administrative cost percentage.

Performance Management Overview

- Collection of activities designed to produce incremental, though substantial, improvements in an organization's processes
- Key components



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Performance management is the collection of activities that produce incremental, though substantial, improvements in an organization's processes and demonstrable value for customers, employees, and other stakeholders.

Performance standards are designed around an organization's key objectives. The standards are multidimensional and include measurements that reflect different aspects of each objective. The metrics within the performance standards are often defined as ranges. The ranges should reflect "threshold" and "stretch" performance levels. In other words, a range is set with a minimum level of performance and a level that is considered extremely difficult to achieve. The ranges allow organizations to identify performance levels for each standard that are most appropriate for their current business position and desired future position.

Once the performance standards are defined, the organization's current level of performance is assessed against the defined performance standards on a regular basis. An integral aspect of performance management is identifying activities that do not meet expected levels of performance. Specific process improvement plans are developed to address activities that fall below expected levels of performance. This is an iterative process that leads to incremental, though substantial, improvements in an organization's performance.

Key Areas of Performance Management Focus

- Satisfaction
- Quality
- Service
- Access
- Cost
 - Typically measured on a per-member per-month (PMPM) basis
 - Examples of utilization metrics include visits per member and inpatient days per 1,000 members
 - A main focus of this presentation

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Performance standards are developed to measure and assess satisfaction, quality, service, access, and cost. The performance standards for each objective include a set of multidimensional metrics with a quantified range of targeted performance. The focus of the rest of our briefing concerns the cost, which we describe here. The following two slides provide an overview of the other four categories. We present several examples of these standards, together with the ranges observed in the commercial sector. The range represents typical industry performance, beginning with performance standards for cost.

Cost. The cost performance standard assesses the level of administrative and health care cost associated with the administration of the employee benefit program. The administrative cost is measured typically on a PMPM basis for all services and is also tracked at the service level (e.g., claims processing, customer service, eligibility, and information technology). The health care cost is measured on a PMPM basis and by utilization rates. Examples of utilization metrics are inpatient days per 1,000, admits per 1,000, medical cost ratio, visits per 1,000 (by specialty), and outside referral expense as a percentage of total medical expense.

Some Examples (Non-cost Metrics)

- **Satisfaction**
 - Overall member satisfaction (ranging from 75% to 90%)
 - Provider satisfaction (65% to 95%)
- **Quality of care**
 - Overall quality of care (80% to 90%)
 - NCQA accreditation (none to higher level accreditation)
 - Various HEDIS metrics

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On this slide, we focus on satisfaction and quality of care.

Satisfaction. The satisfaction performance standard assesses the level of satisfaction members have with their health plan. Typically, the health plan or employee benefit program will monitor the overall member satisfaction score and may further monitor subscores in areas that require improvement. In addition, provider satisfaction may also be tracked because there is a known correlation between member and provider satisfaction.

Quality of care. The quality-of-care performance standard assesses quality and efficacy of care delivered to members. There are a number of widely accepted measures that health plans and employee benefit programs use to assess care quality, including a health plan's level of accreditation with NCQA, HEDIS measures, and so on.

Some Examples (cont'd)

- Access to care
 - Overall access (80% to 90%)
 - Emergency care (immediate appointment)
 - Urgent care (no more than 1 day)
 - Routine care (no more than 1 week)
 - Specialty care (no more than 1 month)
 - # of specialist physicians per 1,000 members (15 to 145)
 - % PC providers not accepting new members (5% to 50%)
- Service
 - Call abandonment rate (2% to 9%)
 - Average speed to answer, in seconds (1 to 90)
 - % calls answered within 30 seconds (80% to 95%)
 - # of inquiries PMPM (100 to 300)
 - % claims finalized in 30 days (99%)

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The last two categories are access to care and service.

Access to care. The access-to-care performance standard assesses a member's access to timely care in the appropriate setting. Typical measures include network coverage, communication of network disruption, and access to care in a variety of settings and circumstances.

Service. The service performance standard assesses the services provided by the health plan to support the administration of the employee benefit program. The typical services measured are claims processing, customer service, enrollment and eligibility, and grievance and appeals.

In the last few slides, we have provided typical metrics associated with the performance standards of satisfaction, quality of care, access to care, service, and cost. We have also provided the typical commercial performance ranges. The ranges reflect the continuum of performance in the market.

Uses of Performance Management

- Place focus on the key objectives of the organization
- Compare internal measures with both commercial and other benchmarks (e.g., Kaiser)
 - Later slides will compare Region 11 utilization and costs with various benchmarks
- Identify activities not meeting expected levels of performance
- Provide a basis for action for planning

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In the private sector, there is a general sense that employers have done well in putting performance standards into contracts. Including performance standards forces the employer to be clear about its expectations and program objectives and to define them in a quantitative way. To have a successful performance program, there must be a way to measure performance and to react to poor performance. These practices are easily adaptable for Region 11's management of the Military Health System.

Our goal here is to introduce the notion of measuring performance. In subsequent slides, we'll describe various measures we've created of the productivity of Region 11's MTFs and the cost and use of services they provide. We will compare them to various benchmarks to see which activities are meeting the performance levels. This should help the Region 11 Lead Agent and his office make improvements in the delivery and efficiency of care.

Health Care Use in Region 11

- **Examine MTF productivity measures**
 - Inpatient and outpatient percentage of workload “in-house”
 - Examine complexity of workload
- **Measure health care use and cost**
 - Compare direct care and MCSC with other regions
 - Compare with civilian benchmarks
- **Beneficiary demand**
 - Visits and inpatient days per beneficiary/enrollee
 - How well MTFs are managing demand
- **Other factors that will likely affect Region 11 costs**

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We begin our examination of Region 11's health care services by focusing on a few different measures that describe MTF productivity. One simple measure is how much of the workload, both for inpatient (IP) and outpatient (OP) services, was done in the MTFs (versus paid for by the contractor). A second set of productivity measures pertains to the complexity of the services provided. We describe these in more detail later in the briefing.

We then look at various measures of health care use and cost in Region 11. Most of these measures can be created for the MTFs in the region as well as for CHAMPUS. We compare many of our use and cost measures with analogous measures for other regions. In addition, we compare many of these measures with civilian benchmarks as drawn from the commercial standards we discussed earlier.

We also examine several measures of beneficiary demand, mainly focused on Prime enrollees. Examples of these measures include visits per enrollee and the number of inpatient days per enrollee. As part of this analysis, we offer an example of how we can “rate” the MTFs on their management of the demand for services they must provide.

Data

- **Claims data (FY 1999)**
 - One sample is based on workload
 - Entire CHCS appointment data
 - Samples for standard ambulatory data record (SADR) and health care service record (HCSR) professional file
 - Entire standard inpatient data record (SIDR) and HCSR institutional file
 - Second sample is based on population
 - One percent sample of beneficiaries, then matched with all of their DOD claims, both direct care and CHAMPUS
- **MHS Executive Summary (MHSES) data**
 - More aggregate, but contains values for FY 1999 and 2000

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It's important to describe briefly the data sources we relied on for this part of the analysis. As part of another study,¹ we obtained much of the direct care and CHAMPUS claims data for FY 1999 to create a variety of measures describing how many and what kinds of services were being provided in the MTFs and by CHAMPUS. We had the entire population for several datasets, including the CHCS appointment data and the direct care and CHAMPUS inpatient data. TMA provided a sample of both MTF and CHAMPUS OP data. The full population, even for one fiscal year, would have meant processing more than 60 million records, so the sample enabled us to represent the services being offered, but with fewer than 5 million records (still a fairly substantial amount of data processing).

We also had similar data, but based on a different sample. Instead of a sample drawn from each clinic within each MTF, TMA first sampled from the DEERS file, representing all DOD beneficiaries. Then, for each person, TMA gathered all of his or her claims data from the datasets described above (with the exception of the CHCS appointment data).

Finally, we also used the MHSES data. This set of Excel spreadsheets contains a great deal of summary data for FY 1999 and 2000.

¹This study was documented in *The MHS Optimization Project: Estimating the Potential for Recapturing CHAMPUS Workload in the MHS (Final Report)*, Robert A. Levy, Eric W. Christensen, Michele Almendarez, and Richard Miller, CAB D0004698.A2, September 2001.

Inpatient Workload and Complexity

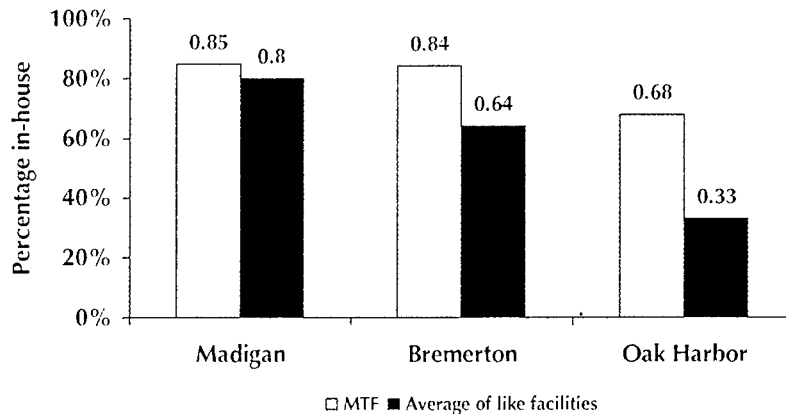
- **Examine percentage of inpatient DRGs performed at MTF relative to CHAMPUS**
 - In related study, compared with similar MHS facilities
 - AMC Madigan in large facility group, NH Bremerton in medium group, NH Oak Harbor in small group
- **Can also compare complexity of workload**
 - Relied on DRG and DRG weight to calculate a modified RWP (i.e., excluded length of stay inliers and outliers)

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Beginning with the workload at the three inpatient facilities in Region 11, our measure is based on the diagnosis-related group (DRG), which is often used to characterize inpatient workload. Here, using the SIDR and the HCSR institutional file, we counted up the number of DRGs treated at the MTFs relative to those treated and paid for by CHAMPUS. Although we had no external benchmark or standard to compare to a measure unique to the MHS, we did create internal benchmarks so that different MTFs could be compared. Recognizing that the size of a facility and the number of staff would be related to how much work it can perform, we created three different groupings for MTFs, based mainly on the number of physicians in the facility. We labeled these groups large, medium, and small facilities. The three IP facilities in Region 11 reflected all three groups: Madigan—large, Bremerton—medium, and Oak Harbor—small.

In addition to comparing the percentage of workload for each MTF, we also compare the complexity of the workload relative to what went to civilian facilities in the catchment area. We created an average value for the facility based on the different DRGs treated in the facility and weighted by the associated DRG weight. The “average” or typical DRG treated in an IP facility has a weight of 1. Therefore, we could determine the MTF’s average complexity level compared to this level as well as to other MTFs and CHAMPUS.

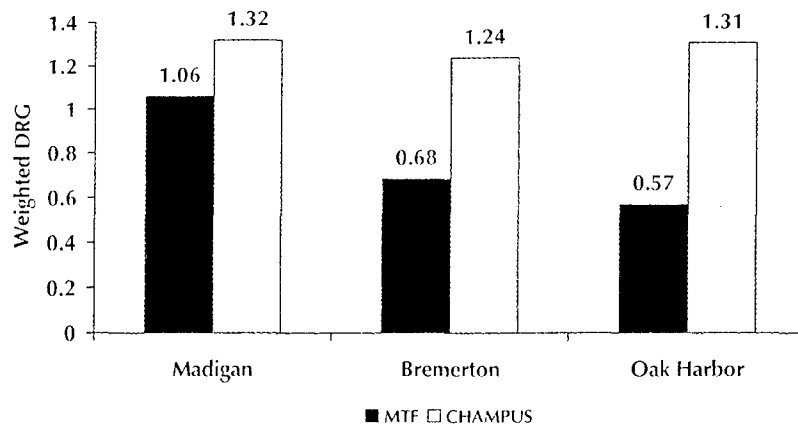
Percentage of IP Workload at MTF



21

This figure presents the percentage of IP workload treated in each facility and then compares that percentage to the average for the like-size facilities of which the MTF is a part. For example, Madigan provided 85 percent of all IP care in its catchment area, as measured by number of inpatient stays relative to the total, including CHAMPUS. This compares to the 80 percent we calculated for all large MTFs (of which there were 16 in the large-facility group). Bremerton, 1 of 24 medium-sized facilities, was close to Madigan, about 84 percent. This compares very favorably with the average for the medium-sized facilities of about 64 percent. Finally, Oak Harbor was one of the highest of the roughly 40 small MTFs providing IP care, providing 68 percent of this care, or about double the percentage of its group. Of course, for Oak Harbor, being relatively isolated is an important factor; nonetheless, it does provide more than two-thirds of the IP care for beneficiaries in its catchment area.

Comparing IP DRGs



22

How about the relative complexity level? We use the weighted DRG as our measure, as shown above. Given the relative proximity of these three catchment areas, it is not surprising that the CHAMPUS workload has similar values, ranging between 1.24 and 1.31. It's also not surprising that the highest value found for the three MTFs is at Madigan and the lowest at Oak Harbor, the latter being the smallest of the three MTFs.

All three had lower weighted DRG values than what we calculated for their respective catchment area workload paid for by CHAMPUS. The difference is not too large at Madigan, but much larger both at Bremerton and Oak Harbor. Clearly, the results imply that more complex IP procedures must be done at civilian facilities, with Madigan probably being the lone exception.

Outpatient (OP) Workload

- In our OP analysis, we disaggregated across specialties
 - Other than total visits, no simple way to aggregate
- Focus was on primary care as well as subspecialties
- To measure complexity or intensity of service, created relative value unit (RVU) scale
 - Followed a “blend” of HCFA and HA guidelines
 - Includes all outpatient visits and procedures
 - Specified visits by CPT-4 in either evaluation and management or medicine chapters
 - Specified surgical (OP) procedures by CPT-4 in surgical chapter

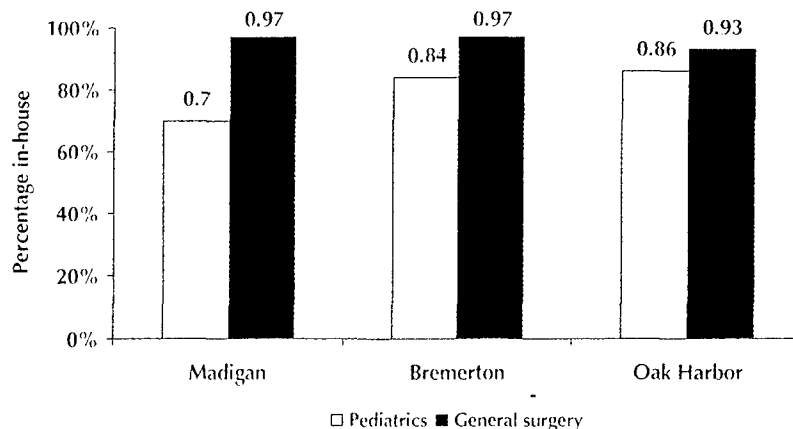
23

OP workload includes the visits to a provider and the OP procedures performed, such as same-day surgery. Often the visit is used to describe OP workload, but that takes no account of differences across specialties. In our analysis mentioned in the footnote on page 19, we created data for many different subspecialties—primary care as well as specialty care.

We also created a measure of complexity or intensity of the OP procedures, called the relative value unit (RVU). The RVU is based on the specific CPT-4s describing the procedure. First, we had to determine the number and nature of the procedures associated with a given encounter. Each SADR and each HCSR would often list several CPT-4s on a given record. We needed to implement our own set of procedures and “rules” for determining the RVU for every specific encounter.

We associated the visit or procedure to all beneficiaries, enrollees and non-enrollees, with its specific CPT-4. There are three components of the RVU value, based on a “score” associated with the work, practice expense, and malpractice. Because we’re not trying to determine the payment made to the provider, we don’t multiply this value by the “constant factor” that leads to the HCFA payment. Once we associate a procedure with this RVU score, we assign a weight of 100 percent to the procedure on that encounter with the highest score and a weight of 50 percent to all other procedures on that same encounter. We incorporated other rules, as described in our recent study (see footnote 1 on p. 19).

Percentage of In-House Pediatric and General Surgery Workload*



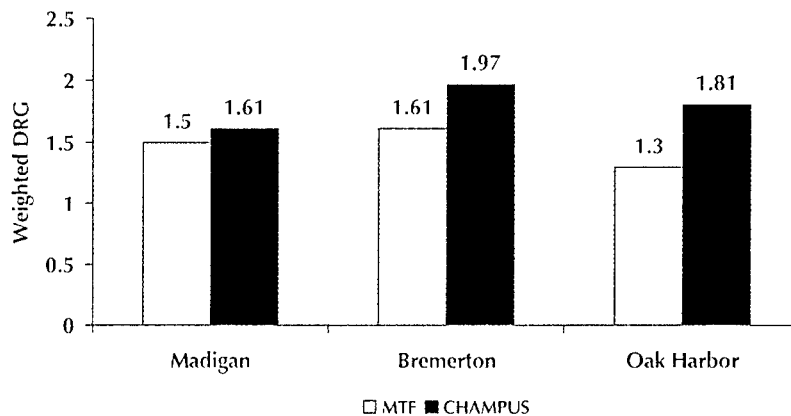
*Visits + OP surgical procedures

24

Having defined OP workload by the sum of visits plus OP surgical procedures, we then determined how much of the total catchment work was done in the MTFs. This slide shows the percentages for two specialties, pediatrics (which includes general pediatrics and the various pediatric subspecialties) and general surgery. We chose these two just to represent one (mostly) primary care specialty and one surgical specialty. In pediatrics, all three sites perform the majority of the work. Pediatric visits to Madigan made up about 70 percent of total catchment pediatric workload, Oak Harbor provided 86 percent of the catchment workload, and Bremerton was close behind at 84 percent. We note that the visit counts include resource sharing visits, i.e., those to a civilian provider working under contract to the MCSC, but at the MTF.

All three provided the vast majority of general surgery OP care. Madigan and Bremerton performed about 97 percent of the catchment workload, and Oak Harbor was close behind at 93 percent. Clearly, it would be hard to recapture much more of the OP workload.

Comparing RVUs for Pediatrics

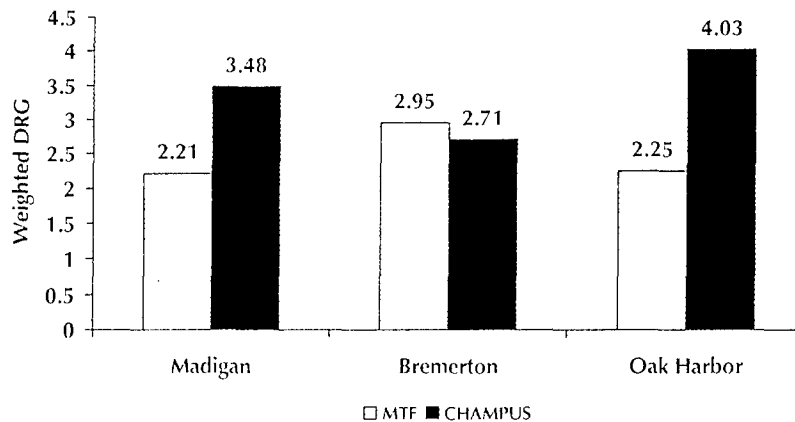


25

What kinds of visits or procedures went to CHAMPUS? We cannot say precisely without listing a lot of specific conditions and procedures, but we examine the RVUs at each site. Because we have no information on the number of providers used by the MCSC for what we term CHAMPUS care, we present the RVU as an average based on the sum of visits and OP surgeries (in other words, we compute the total RVU and divide by the total number of visits + procedures).

First, for pediatrics, we show our calculated values for the three sites. All are lower than their respective CHAMPUS areas, although the difference is fairly small for Madigan. In general, Bremerton's catchment area has the highest RVUs, whether at the MTF or outside. Madigan's and Oak Harbor's overall values appear to be close, with Madigan itself at a higher value than Oak Harbor. Therefore, the majority of the work goes to the MTF, but somewhat more complex procedures apparently go outside to civilian providers.

Comparing RVUs for General Surgery



26

The same pattern holds for general surgery. We've already seen that more than 90 percent of the work is performed at each MTF. The work that goes outside appears to be the more complex cases.¹ In terms of specific numbers, these totals are about 510, 240, and 340 in the Madigan, Bremerton, and Oak Harbor catchment areas, respectively. The most complex cases appear within the Oak Harbor catchment area, but we should reiterate that there were relatively few cases in the catchment area. Another interesting finding is that both Bremerton's and Oak Harbor's workloads have higher RVU values than Madigan, which is the only medical center of the three. Perhaps this can be explained by the presence of other more specialized surgeons at Madigan. If this is the case, it may limit somewhat the scope that Madigan's general surgeons provide.

¹There is, of course, another explanation, based on the MTFs being less precise with coding. We really have no way to confirm this conjecture. Nonetheless, we believe it's important to use the information in the hope that providers will pay more attention to being accurate in recording of what they do if they believe it will be used.

Enrollee Demand for Services

- **Examine demand for services, both IP and OP**
 - Focus on TRICARE enrollees under 65
- **Introduce cost**
 - For MTFs, rely on average rates from MHSES (e.g., total inpatient cost/total dispositions)
 - For MCSC, use cost from HCSRs
 - Included professional, facility, and pharmacy charges when possible
 - Cost estimates probably require further examination
- **Examine costs for TSP at Madigan and other TSP sites**

27

Although we could provide much more detailed information on workload at these MTFs, we turn now to figures showing measures that would fall under the general heading of enrollee demand for health care services. Although we'll present a slide or two on non-enrollees, we've concentrated on showing what the demand for services has been for Region 11 enrollees and how that compares both with enrollees in other regions and with benchmarks drawn from the civilian sector. We've relied on two different sets of benchmarks. For visits and average length of stay, we've used average values drawn from 1999 data representing averages across the Kaiser-Permanente health care system (including the Group Health Cooperative, an affiliated plan that operates in much of Region 11). For several of the other measures, we rely on the data from our commercial performance metrics.

Most of the slides pertain to enrollees under the age of 65. Also, we present several slides comparing cost PMPM. Determining cost within the system can be very complicated, particularly for services provided by the MTFs. For that reason, we rely on the MHSES data to determine the average cost of a visit and the average cost of an inpatient day. But, for CHAMPUS costs, we used the costs of the service as obtained on the HCSR. We should reiterate, however, that the nature of health care costs makes it difficult to ensure that all costs were really included.

Region 11 Enrollee Demographics (Percentages)

| Age group | Madigan | Bremerton | Oak Harbor | Fairchild | Network | Kaiser |
|-----------|---------|-----------|------------|-----------|---------|--------|
| < 17 | 35.2 | 36.7 | 33.2 | 27.6 | 37.7 | 28.3 |
| 17 – 44 | 41.0 | 48.0 | 57.3 | 47.2 | 37.1 | 43.1 |
| 45 – 64 | 16.7 | 15.0 | 9.5 | 24.4 | 24.2 | 27.5 |
| 65+ | 7.2 | 0.3 | 0.0 | 0.8 | 0.9 | 1.1 |
| % male | 48.6 | 50.0 | 56.3 | 48.8 | 46.9 | 48.8 |

28

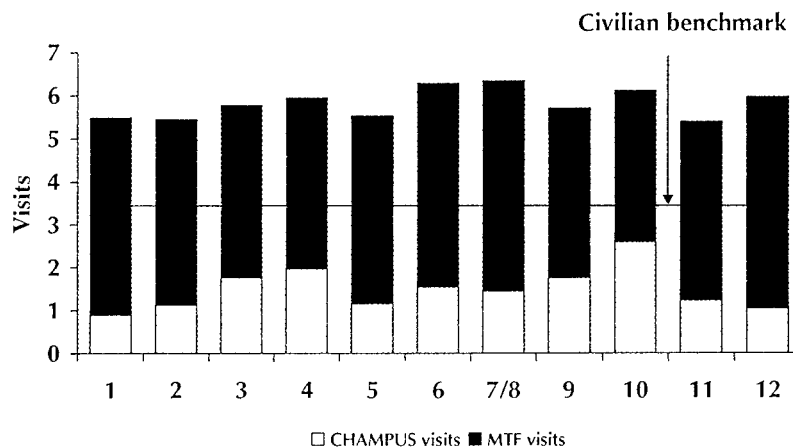
Before we turn to the measures we've created, the amount of health care services demanded depends, in general, on the demographics of the population being served. Our measures are mainly created from the 1% sample, and it may be useful to describe the demographics in the sample as well as to compare these values to a civilian health care insurer.

The table above presents four categories of age and, in the last row, the percentage of males for four of the MTFs in the region, for network enrollees, and finally for Kaiser (nationwide). We won't go into great detail trying to explain the differences, but they exist. Kaiser has fewer beneficiaries in the youngest age group and somewhat more in the 45–64 age group. With the exception of Madigan, a TSP site, none of the other sites has a high percentage of the Medicare-eligible population.

In terms of percentage of males, all of the sites (including Kaiser) are fairly close. Oak Harbor, a hospital serving a naval air station, has a slightly higher proportion.

In summary, although correcting for demographics can sometimes be important, the differences we found do not appear to be large.

Enrollee Visits per Year

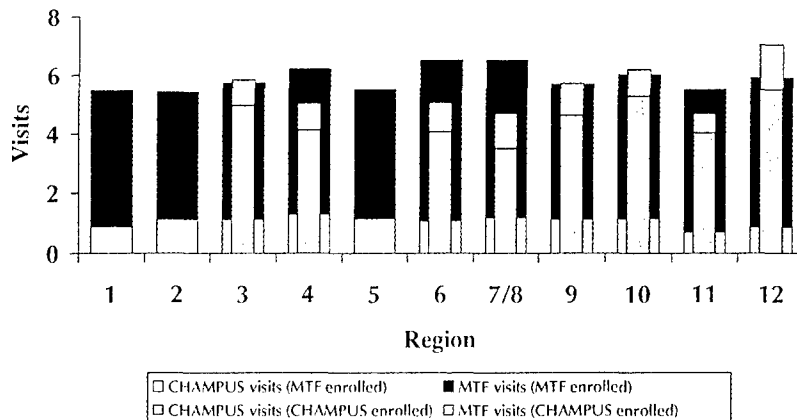


29

This slide shows the total number of visits for TRICARE Prime enrollees, excluding the TRICARE Senior Prime (TSP) enrollees, across all regions. The bars combine visits to both the MTF and the MCSC and include both types of enrollees (i.e., those enrolled at the MTFs and those enrolled in the network). We could show how the two network groups differed, but we were concerned that a few of the regions' sample sizes might be too small for some of the comparisons. Therefore, we just added the MTF and network enrollees together.

The average visit rate per year is between 5.5 and 6.5, with Region 11 at the low end of the range, a bit more than 5. Excluding active duty personnel, the range is between 4.7 and 6.5 visits per year. All are above the civilian benchmark (from Kaiser), which averages about 3.5 per person per year.

MTF and Network Enrollee Visits per Year

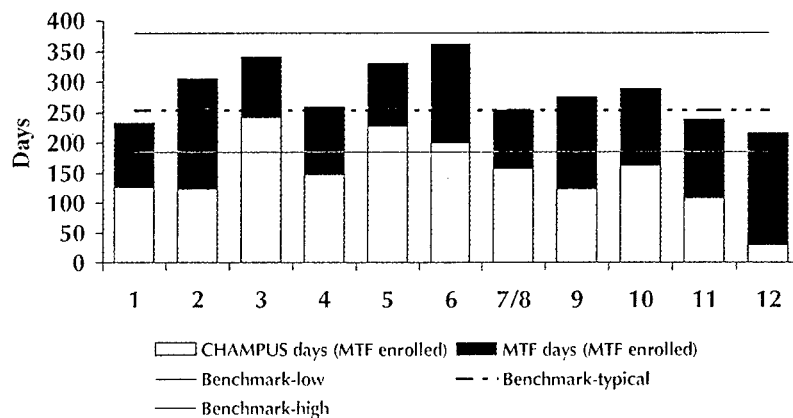


30

This slide shows the total number of visits for these same enrollees across all regions. However, we provide the additional detail that differentiates between those Prime beneficiaries who enroll at the MTFs (the “underlying” bar) and those who enroll in the civilian network (the “top” bar). (Because of “revised financing,” all Region 1, 2, and 5 enrollees do so at the MTF, not with the contractor.)

Those Region 11 network enrollees had a slightly lower visit rate, receiving about 4.7 visits per year, with just over 0.6 per year, on average, provided at the MTF. This visit rate compares to the 5.6 visit rate observed for MTF enrollees.

Enrollee Hospital Days per Year (Per 1,000 Members)

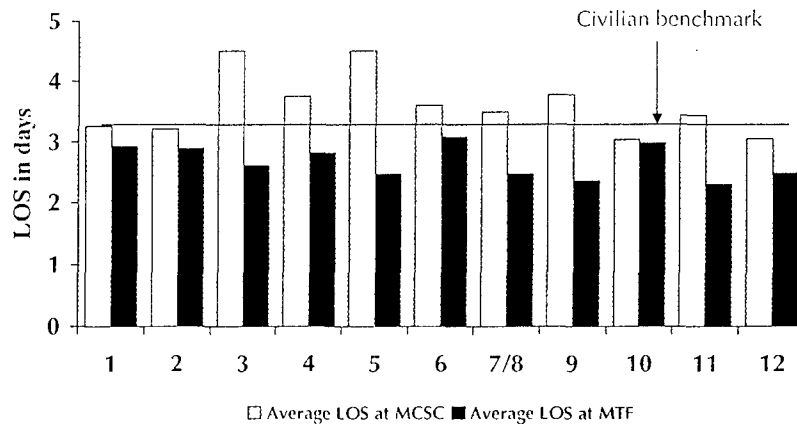


31

Next, we turn to an inpatient measure—the total number of inpatient days per year per 1,000 enrollees (or members). There is much more variation across the regions here, ranging from about 200 days (Region 12) to about 350 days (Region 6). Note also that we've added three lines, representing benchmarks taken from the commercial standards we discussed earlier. Unlike the Kaiser benchmark, we have low, high, and "typical" values. All are above the low values, but several, including Region 11, are below the typical number of days observed in the commercial sector. We might also point out that these benchmarks are not overly stringent. Kaiser reports an average of inpatient days for its population of about 150 per 1,000 members, which is lower than the low benchmark. Nonetheless, at least within the MHS, Region 11 seems to be at the low end of hospital days when compared with the other regions.

We included all types of civilian inpatient facilities in our analysis of hospital days, but the numbers in the types of facilities in which patients often had long stays were very few. In our sample for the entire MHS, the number of stays in general medical and surgical facilities made up almost 80 percent of all stays, whereas those in residential treatment centers made up only about 2.4 percent, and those in skilled nursing facilities made up less than one-half of 1 percent of the total.

Enrollee ALOS

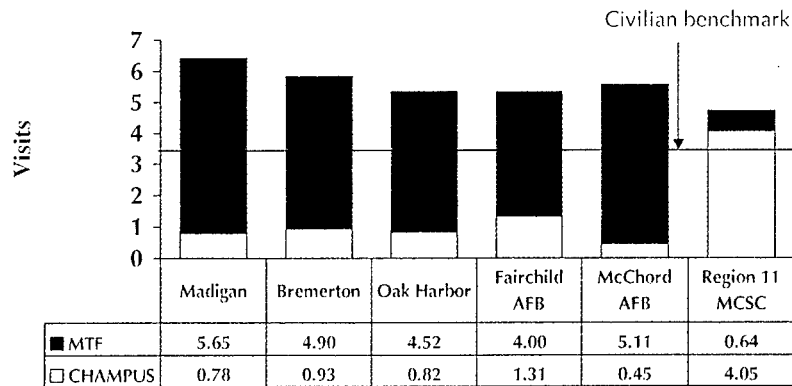


32

Another measure often used to compare across health care plans is the average length of stay (ALOS). Here, we provide the ALOS for enrollees who used civilian facilities (through the contractor) and those who used the MTF. The values are usually higher for those in civilian inpatient facilities, possibly reflecting the more complicated procedures we showed were more prevalent, at least for the Region 11 catchment areas. Both sets of values for this metric are close to the benchmark (again from Kaiser) and especially so for the MTFs, which are below the benchmark.

Region 11 MTFs are among the lowest, although the civilian care in the region is slightly higher than the benchmark.

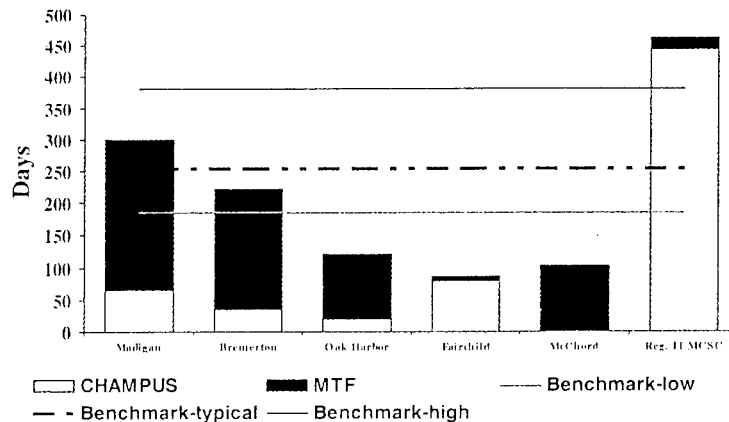
Visits per Year by Enrollment Site



33

In this slide, we break out the visits by the enrollment site (as before, for non-TSP enrollees only). They vary from about 4.7 per year for network enrollees to almost 6.5 at Madigan and almost 6 at Bremerton. Most of the visits for those enrolled at the MTFs are provided by the MTFs. Not surprisingly, the number of visits going outside the MTFs is a bit higher at Fairchild, a small facility, and for those enrolled in the network, who are likely to get most of their care outside.

Days per 1,000 by Enrollment Site



34

Similarly, for hospital days, we break out visits by MTF and by contractor. But, here, there's much more variation across the sites. The smaller facilities' enrollees tend to have far fewer days in an inpatient facility, much lower than the low benchmark. The enrollees at Bremerton are higher, but still a little below the typical value found in the commercial sector. Madigan is higher still, but lower than the high benchmark. The highest is clearly those enrolled with the contractor. They average close to 450 days per 1,000 members, which is significantly higher than the high benchmark.

Although we included all kinds of civilian inpatient facilities, the majority of stays were in general medical and surgical facilities. Our sample of beneficiaries indicated no stays in skilled nursing facilities. Excluding all stays not in general inpatient facilities, ALOS was only about 10 percent lower.

Determining MTF Performance

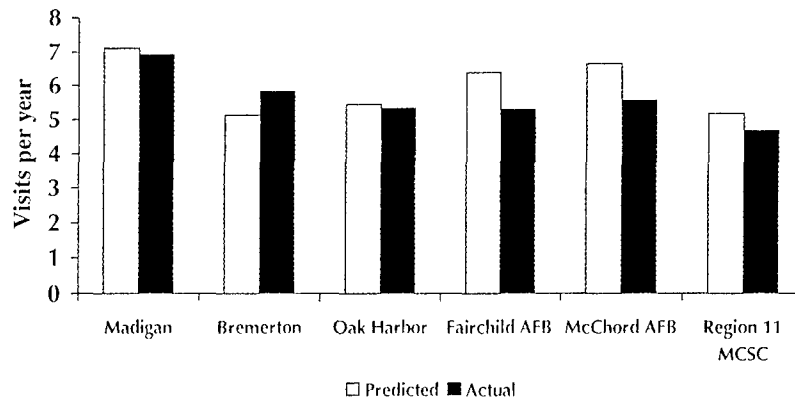
- Model utilization of Prime enrollees as function of
 - Gender, age, beneficiary category
- Aggregate over enrollees and predict average utilization for each facility
- Compare predicted utilization with actual utilization at each facility
 - Actual < Predicted: Lower rate than expected
 - Actual > Predicted: Higher rate than expected

35

In the last few slides, we've shown a number of measures of utilization of health care for Region 11 enrollees (excluding TSP enrollees). Earlier we mentioned that the MTFs of Region 11 have been among the first to implement the MHS optimization plan. An important part of optimization is to ensure that the various facilities use innovative techniques to manage the demand of beneficiaries in order to provide only the needed amount of services they require. As part of CNA's optimization study (see footnote on page 19), we wanted to determine from various statistical techniques which MTFs appear to be doing a good job of managing demand and which MTFs are performing poorly.

The technique we used was to first predict the demand for visits and inpatient days for Prime enrollees (including TSP) at all MTFs across the system. Then we compare the MTFs' predicted values, based on their catchment area demographics, with their actual values. A site with a higher visit rate than another may not be doing a worse job of managing demand if its population is older and potentially sicker than the site with lower visit rates. Correcting for key demographic factors might show that the high visit rate site (before correction) was the better manager of the health care needs of its population.

Predicted vs. Actual Visits by Enrollment Location



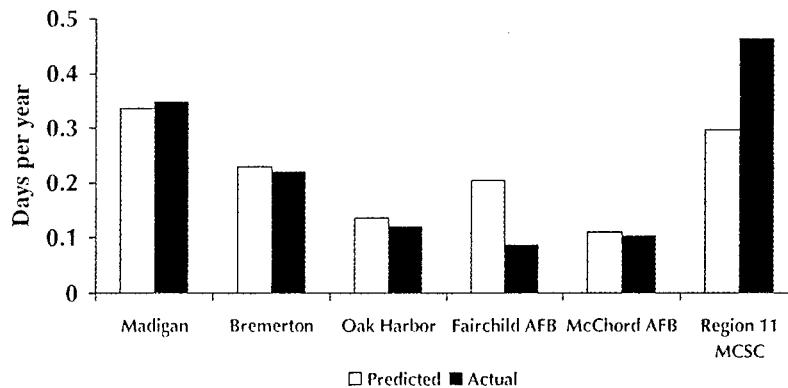
Note: actual < predicted denotes "good" performer

36

We performed the statistical analysis discussed in the previous slide, and show what we found for the Region 11 MTFs, first for visits and, in the next slide, for inpatient hospital days. Shown above for each MTF is the cross-hatched bar denoting the predicted rate, given that MTF's population and other characteristics (e.g., whether it belonged to the large, medium, or small group). We also show the darkly colored bar denoting the actual visit rate for the facility. A relatively good performer is one in which the actual is less than the predicted. The larger the relative difference between the two bars, the better the MTF is performing in managing the care of its beneficiaries.

In Region 11, with the lone exception of Bremerton, all have actual visit rates lower than predicted and even Bremerton is reasonably close. The largest difference, implying the best performer, appears to be Fairchild, but McChord and the network are close behind. In general, all appear to be managing demand fairly effectively as compared with other MTFs.

Predicted vs. Actual Inpatient Days by Enrollment Location



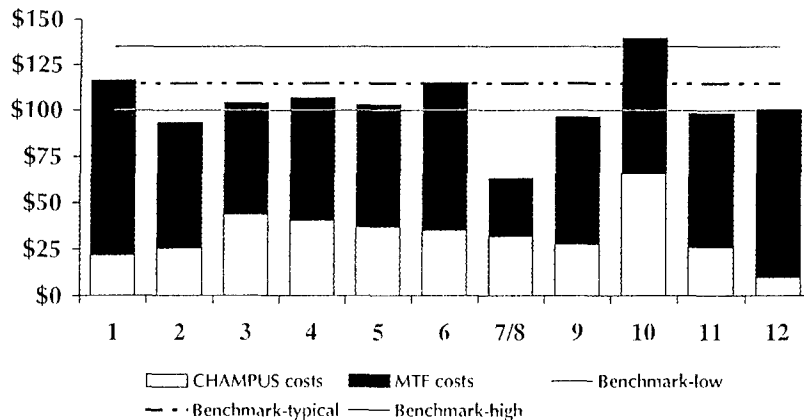
Note: actual < predicted denotes "good" performer

37

As we showed earlier, there's more variation on inpatient workload, but here too most facilities are managing demand effectively. Madigan shows only slightly higher actual inpatient days than predicted, and all of the other MTFs are below, again led by Fairchild. In FY 1999, Fairchild performed little or no inpatient work, so we may be observing a small inpatient rate for its enrollees who go outside the direct care system for hospitalization or who have to travel far to get to Madigan. This is mostly confirmed in slide 34. Most of the inpatient days were provided through the contractor, not the MTF.

Clearly, the worst performer was the network. We observed also in slide 34 a high number of inpatient days. What we're showing here is that demographics account for only some of the high number of inpatient days.

Medical Costs PMPM by Region

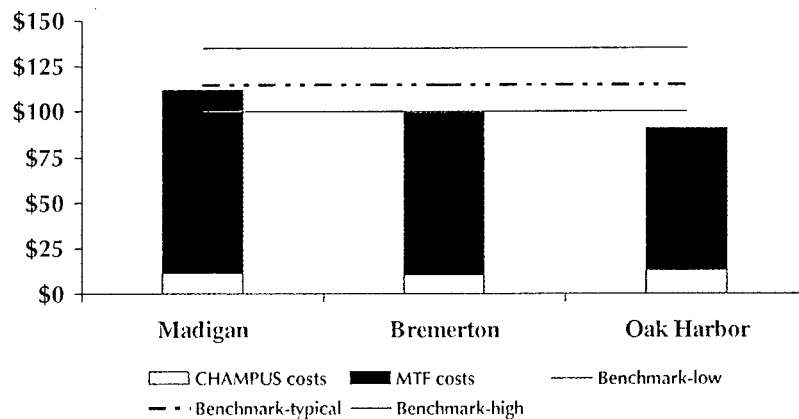


38

Next, we turn to cost measures across the regions. We've already mentioned some of the assumptions we made to obtain costs for both the direct care system and the contract. Additional work may be required to obtain a more accurate accounting of costs, but we believe our estimates are good starting points.

We calculate the non-TSP enrollee medical cost PMPM, both inpatient and outpatient, and compare the costs across regions as well as with the benchmark. These costs were derived from the claims data, so they pertain to the health care services only, and exclude any associated administrative costs. Perhaps surprisingly, most regions appear to be doing well, providing health care at a rate per month that compares favorably with the commercial benchmarks for medical costs. Most sites are at or below the typical benchmark value (with the Central Region looking unreasonably low and probably requiring more work to confirm), with a few, such as Region 11, just below. Only one region, 10, is substantially above the others; its value is even above the high benchmark value. We haven't examined why at this point, but we will point out that Region 10 is fairly small, which means our sample of beneficiaries was small as well.

Medical Costs PMPM by Catchment Area



39

A final look at (non-TSP) enrollees shows how the three largest Region 11 sites' costs compare to the commercial benchmarks. Both Bremerton and Madigan are no higher than the low benchmark. Even the costs at Madigan, the largest military medical center in the region and the kind of facility often associated with high costs, are just about equal to the typical PMPM cost observed by commercial firms.

Some Conclusions and Future Challenges

- Region 11's administrative costs were in line with civilian standards until option periods 6 and 7
- Region 11's MTFs were moderately "good" performers
- Costs for (non-TSP) enrollees relatively low
- But current and future problems are looming
 - Pharmacy costs have been growing at a fast clip
 - MTF visits fell from FY 99 to FY 00 by 5%, dispositions by 3%
 - Contractor visits grew by 9%, dispositions by 7%, and total cost grew by 16%
 - Non-enrollee costs were still high
 - FY 01 NDAA will add greatly to costs for all regions

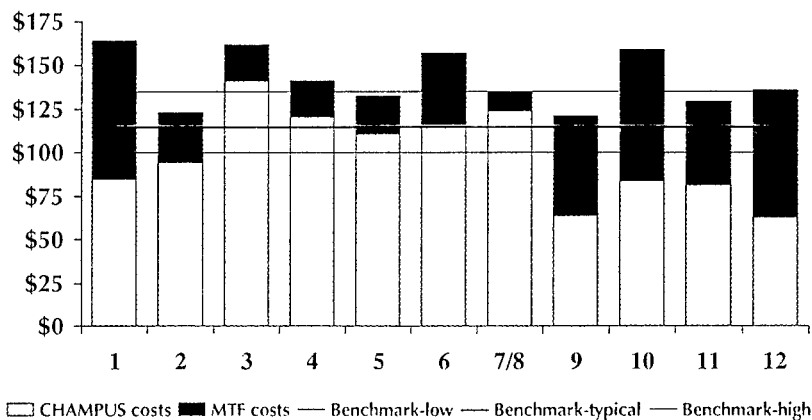
40

To sum up what we've found on enrollee cost, our findings imply that, for FY 1999, Region 11's MTFs were performing well, compared with MTFs in other regions, in terms of delivering care at costs observed in the commercial sector. Administrative costs were fairly reasonable in the beginning, but that's changed. With recent settlements and in the latest option periods, these costs appear to be above the average found in the public and private sectors.

After correcting for demographics, we found that, in general, Region 11's MTFs appear to be managing the demand for their beneficiaries' visits and inpatient care. Further, costs on a PMPM basis seem low when compared with commercial benchmarks.

But, that's not to say that challenges aren't looming. Pharmacy use and cost have recently been growing at double-digit rates and show few signs of abating. The MHSES data show that Region 11's MTFs have seen some of their workload shift to the contractor, a phenomenon observed in most other regions as well. Its cost growth for outpatient and inpatient services of 16 percent was at the high end, but not as high as in a few other regions. Finally, we end with two slides that show (1) high costs for non-enrollees in the system and (2) costs observed for the TSP enrollees at several locations. The costs for TSP enrollees show what may be expected as care is provided for 65+ beneficiaries under NDAA, although we recognize that much of the cost would be a pass-through to DOD if these beneficiaries rely on CHAMPUS as a second payor after Medicare.

Medical Costs PMPM by Region (Non-enrollees)

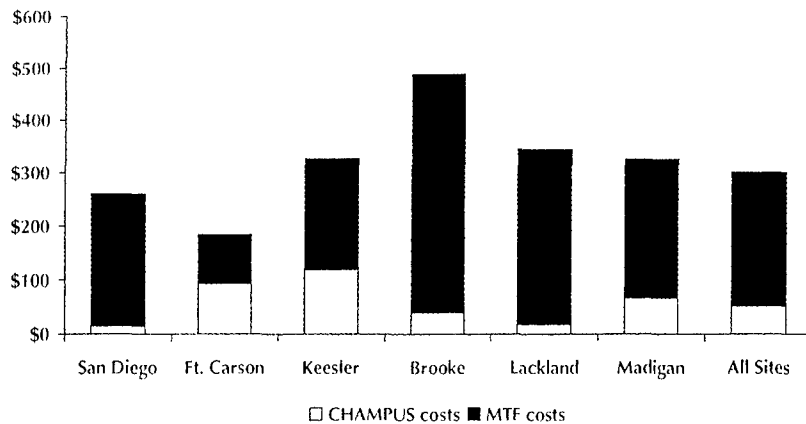


41

As we showed earlier, the cost of providing care for enrollees was relatively low. According to the values shown in this slide, that's not what we find for all regions' non-enrollees.¹ Here, they are often well above the typical benchmark value and, in four regions, are above the high benchmark value. Region 11's PMPM costs are below the high benchmark value, but not by much. Still, when compared with other regions, Region 11's costs look relatively low. The point is that the region appears to be controlling the costs of its enrollees and, as optimization is implemented, there may be even further savings. But, optimization can't really do much for non-enrollees. The MTFs have little control of this group and it's hard to control their costs.

¹We should point out one difference in how we calculated costs for enrollees and non-enrollees. Our measure of enrollees' costs includes those who enroll but who never use the system. Presumably, they were healthy and never needed to see a provider. Non-enrollees, however, include those who never intend to use the system, perhaps because they have other insurance. Therefore, we only included those non-enrollees who had at least one visit to an MTF or submitted at least one claim to the MCSC.

TSP Enrollee PMPM Medical Cost by Enrollment Site



42

Finally, one of the factors of great importance to the DHP in coming years is the cost of providing care to DOD's 65+ beneficiaries. This is a costly group to cover and, although much of the cost will be paid by Medicare, we feel it is useful to see what the recent experience has been for the enrollees under the TRICARE Senior Prime program. We realize that, under the FY 2001 NDAA, DOD does not have to offer Prime to these beneficiaries. A program called TRICARE Plus limiting *empanelment* for primary care services only is apparently what will be offered to this group. Nonetheless, we offer the calculations here to show what the group's health care costs have been. They appear to be about three to four times as expensive as the under-65 enrollees, averaging close to \$4,000 per year in FY 1999. Madigan's costs were just slightly above the overall average for all sites shown here.

Thus, depending on how many beneficiaries rely on care from the MTFs, as opposed to submitting second payor bills to CHAMPUS, the costs of providing care to this group will be high. DOD has budgeted close to \$4 billion in FY 2002. With close to 1 million additional beneficiaries expected to (ultimately) take part in the program, that would suggest about \$4,000 per head, similar to what we've found (at least in FY 1999) for the TSP program.

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A handwritten signature in black ink, appearing to read "Dana Smith", with a stylized flourish at the end.

Dana Smith
CNA

Information Technician II